

(12) 按照专利合作条约所公布的国际申请

(19) 世界知识产权组织  
国际局



(43) 国际公布日:  
2005年6月9日(09.06.2005)

PCT

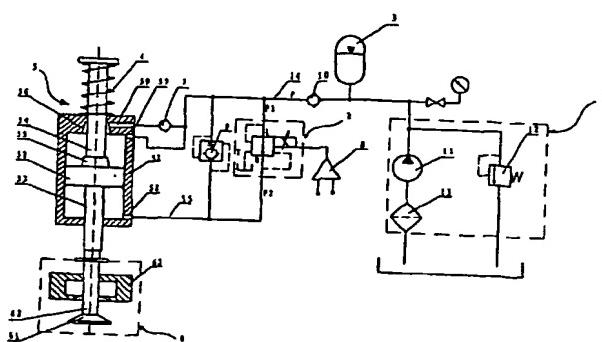
(10) 国际公布号:  
WO 2005/052325 A1

- |                           |   |   |
|---------------------------|---|---|
| (51) 国际分类号 <sup>7</sup> : | F01L 9/02   | (81) 指定国(除另有指明, 要求每一种可提供的国家保护):<br>AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW,<br>BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM,<br>DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR,<br>HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,<br>LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN,<br>MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL,<br>PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM,<br>TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA,<br>ZM, ZW |
| (21) 国际申请号:               | PCT/CN2004/001314   | (84) 指定国(除另有指明, 要求每一种可提供的地区保护):<br>ARIPO(BW, GH, GM, KE, LS, MW, MZ, NA, SD,<br>SL, SZ, TZ, UG, ZM, ZW), 欧亚专利(AM, AZ, BY,<br>KG, KZ, MD, RU, TJ, TM), 欧洲专利(AT, BE, BG,<br>CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU,<br>IE, IS, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR),<br>OAPI(BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW,<br>ML, MR, NE, SN, TD, TG)  |
| (22) 国际申请日:               | 2004年11月19日(19.11.2004)   |   |
| (25) 申请语言:                | 中文  |   |
| (26) 公布语言:                | 中文  |   |
| (30) 优先权:                 | 200310108911.8 2003年11月27日(27.11.2003) CN   |   |
| (71) 申请人(对除美国以外的所有指定国):   | 宁波华液机器制造有限公司(NINGBO HOYEA MACHINERY MANUFACTURE CO., LTD.) [CN/CN]; 中国浙江省宁波市石碶镇雅源南路251号, Zhejiang 315153 (CN).    |   |
| (72) 发明人;及                |   | 根据细则4.17的声明:  |
| (75) 发明人/申请人(仅对美国):       | 凌俊杰(LING, Junjie) [CN/CN]; 翁振涛(WENG, Zhentao) [CN/CN]; 中国浙江省宁波市石碶镇雅源南路251号, Zhejiang 315153 (CN).                 | — 发明人资格(细则4.17(iv))仅对美国   |
| (74) 代理人:                 | 杭州杭诚专利事务所有限公司(HANGZHOU HANGCHENG PATENT ATTORNEYS OFFICE CO. LTD) 中国浙江省杭州市江城路887号联银大厦1802室, Zhejiang 310009 (CN). | 本国际公布:<br>— 包括国际检索报告。   |

所引用双字母代码和其它缩写符号, 请参考刊登在每期PCT公报期刊起始的“代码及缩写符号简要说明”。

(54) Title: PRESSURE DIFFERENCE TYPE VARIABLE VALVE CONTROL SYSTEM

(54) 发明名称: 一种压差式变气门控制系统



WO 2005/052325 A1

(57) Abstract: A pressure difference type variable valve control system is disclosed, which comprises a hydraulic supply means, a hydraulically operated device, a valve, and a spring controlling the balance of the piston. Said hydraulically operated device includes a hydraulic cylinder, a piston and a piston rod. Said piston rod moves with the valve. Said piston divides the hydraulic cylinder into an upper chamber and a lower chamber. Said hydraulic supply means is communicated with the upper chamber through an oil-introducing pipe, while said lower chamber is communicated with said hydraulic supply means through a pressure difference proportional relief valve. Because the pressure difference proportional relief valve is used as the key control element, the lift of the valve is not dependent on the pressure in the system and the pressure difference between the upper and the lower chambers is changeable just by varying the electronic signal so that the timing and lift of the valve can be changed at any time. Thus, the response speed of the system is very fast, and the system is simple in construction, is low in cost, is reliable and is small in interference. The system according to the invention can satisfy the requirement of the internal combustion engine having higher speed and therefore can be popularized in the internal combustion engine widely.

[见续页]